

$f_2(1270)$

$$I^G(J^{PC}) = 0^+(2^{++})$$

NODE=M005

 $f_2(1270)$ MASS

NODE=M005M

NODE=M005M

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
1275.1 ± 1.2 OUR AVERAGE		Error includes scale factor of 1.1.		
1262 $\pm \frac{1}{2}$ ±8		ABLIKIM	06v	BES2 $e^+e^- \rightarrow J/\psi \rightarrow \gamma\pi^+\pi^-$
1275 ±15		ABLIKIM	05	BES2 $J/\psi \rightarrow \phi\pi^+\pi^-$
1283 ±5		ALDE	98	GAM4 $100\pi^-p \rightarrow \pi^0\pi^0n$
1278 ±5		¹ BERTIN	97c	OBLX $0.0\bar{p}p \rightarrow \pi^+\pi^-\pi^0$
1272 ±8	200k	PROKOSHKIN	94	GAM2 $38\pi^-p \rightarrow \pi^0\pi^0n$
1269.7 ± 5.2	5730	AUGUSTIN	89	DM2 $e^+e^- \rightarrow 5\pi$
1283 ±8	400	² ALDE	87	GAM4 $100\pi^-p \rightarrow 4\pi^0n$
1274 ±5		² AUGUSTIN	87	DM2 $J/\psi \rightarrow \gamma\pi^+\pi^-$
1283 ±6		³ LONGACRE	86	MPS $22\pi^-p \rightarrow n2K_S^0$
1276 ±7		COURAU	84	DLCO $e^+e^- \rightarrow e^+e^-\pi^+\pi^-$
1273.3 ± 2.3		⁴ CHABAUD	83	ASPK $17\pi^-p$ polarized
1280 ±4		⁵ CASON	82	STRC $8\pi^+p \rightarrow \Delta^{++}\pi^0\pi^0$
1281 ±7	11600	GIDAL	81	MRK2 J/ψ decay
1282 ±5		⁶ CORDEN	79	OMEG $12-15\pi^-p \rightarrow n2\pi$
1269 ±4	10k	APEL	75	NICE $40\pi^-p \rightarrow n2\pi^0$
1272 ±4	4600	ENGLER	74	DBC $6\pi^+n \rightarrow \pi^+\pi^-p$
1277 ±4	5300	FLATTE	71	HBC $7.0\pi^+p$
1273 ±8		² STUNTEBECK	70	HBC $8\pi^-p, 5.4\pi^+d$
1265 ±8		BOESEBECK	68	HBC $8\pi^+p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1270 ±8		⁷ ANISOVICH	09	RVUE $0.0\bar{p}p, \pi N$
1277 ±6	870	⁸ SCHEGELSKY	06A	RVUE $\gamma\gamma \rightarrow K_S^0 K_S^0$
1251 ±10		TIKHOMIROV	03	SPEC $40.0\pi^-C \rightarrow K_S^0 K_S^0 K_L^0 X$
1260 ±10		⁹ ALDE	97	GAM2 $450pp \rightarrow pp\pi^0\pi^0$
1278 ±6		⁹ GRYGOREV	96	SPEC $40\pi^-N \rightarrow K_S^0 K_S^0 X$
1262 ±11		AGUILAR-...	91	EHS $400pp$
1275 ±10		AKER	91	CBAR $0.0\bar{p}p \rightarrow 3\pi^0$
1220 ±10		BREAKSTONE	90	SFM $pp \rightarrow pp\pi^+\pi^-$
1288 ±12		ABACHI	86B	HRS $e^+e^- \rightarrow \pi^+\pi^-X$
1284 ±30	3k	BINON	83	GAM2 $38\pi^-p \rightarrow n2\eta$
1280 ±20	3k	APEL	82	CNTR $25\pi^-p \rightarrow n2\pi^0$
1284 ±10	16000	DEUTSCH...	76	HBC $16\pi^+p$
1258 ±10	600	TAKAHASHI	72	HBC $8\pi^-p \rightarrow n2\pi$
1275 ±13		ARMENISE	70	HBC $9\pi^+n \rightarrow p\pi^+\pi^-$
1261 ±5	1960	² ARMENISE	68	DBC $5.1\pi^+n \rightarrow p\pi^+MM^-$
1270 ±10	360	² ARMENISE	68	DBC $5.1\pi^+n \rightarrow p\pi^0MM$
1268 ±6		¹⁰ JOHNSON	68	HBC $3.7-4.2\pi^-p$

OCCUR=2

OCCUR=2

NODE=M005M;LINKAGE=A
 NODE=M005M;LINKAGE=T
 NODE=M005M;LINKAGE=L
 NODE=M005M;LINKAGE=O
 NODE=M005M;LINKAGE=P
 NODE=M005M;LINKAGE=S
 NODE=M005M;LINKAGE=AN
 NODE=M005M;LINKAGE=SC
 NODE=M005M;LINKAGE=QQ
 NODE=M005M;LINKAGE=J

¹ T-matrix pole.² Mass errors enlarged by us to Γ/\sqrt{N} ; see the note with the $K^*(892)$ mass.³ From a partial-wave analysis of data using a K-matrix formalism with 5 poles.⁴ From an energy-independent partial-wave analysis.⁵ From an amplitude analysis of the reaction $\pi^+\pi^- \rightarrow 2\pi^0$.⁶ From an amplitude analysis of $\pi^+\pi^- \rightarrow \pi^+\pi^-$ scattering data.⁷ 4-poles, 5-channel K matrix fit.⁸ From analysis of L3 data at 91 and 183–209 GeV.⁹ Systematic uncertainties not estimated.¹⁰ JOHNSON 68 includes BONDAR 63, LEE 64, DERADO 65, EISNER 67. $f_2(1270)$ WIDTH

NODE=M005W

VALUE (MeV) EVTS DOCUMENT ID TECN COMMENT

NODE=M005W

185.1^{+2.9}_{-2.4} OUR FIT Error includes scale factor of 1.5.

184.2^{+4.0}_{-2.4} OUR AVERAGE Error includes scale factor of 1.5. See the ideogram below.

175	± 6 -4	± 10	ABLIKIM	06V	BES2	$e^+e^- \rightarrow J/\psi \rightarrow \gamma\pi^+\pi^-$
190	± 20		ABLIKIM	05	BES2	$J/\psi \rightarrow \phi\pi^+\pi^-$
171	± 10		ALDE	98	GAM4	$100\pi^-p \rightarrow \pi^0\pi^0n$
204	± 20		11 BERTIN	97C	OBLX	$0.0\bar{p}p \rightarrow \pi^+\pi^-\pi^0$
192	± 5	200k	PROKOSHKIN	94	GAM2	$38\pi^-p \rightarrow \pi^0\pi^0n$
180	± 24		AGUILAR-...	91	EHS	400 pp
169	± 9	5730	12 AUGUSTIN	89	DM2	$e^+e^- \rightarrow 5\pi$
150	± 30	400	12 ALDE	87	GAM4	$100\pi^-p \rightarrow 4\pi^0n$
186	± 9 -2		13 LONGACRE	86	MPS	$22\pi^-p \rightarrow n2K_S^0$
179.2	± 6.9 -6.6		14 CHABAUD	83	ASPK	$17\pi^-p$ polarized
160	± 11		DENNEY	83	LASS	$10\pi^+N$
196	± 10	3k	APEL	82	CNTR	$25\pi^-p \rightarrow n2\pi^0$
152	± 9		15 CASON	82	STRC	$8\pi^+p \rightarrow \Delta^{++}\pi^0\pi^0$
186	± 27	11600	GIDAL	81	MRK2	J/ψ decay
216	± 13		16 CORDEN	79	OMEG	$12-15\pi^-p \rightarrow n2\pi$
190	± 10	10k	APEL	75	NICE	$40\pi^-p \rightarrow n2\pi^0$
192	± 16	4600	ENGLER	74	DBC	$6\pi^+n \rightarrow \pi^+\pi^-p$
183	± 15	5300	FLATTE	71	HBC	$7\pi^+p \rightarrow \Delta^{++}f_2$
196	± 30		12 STUNTEBECK	70	HBC	$8\pi^-p, 5.4\pi^+d$
216	± 20	1960	12 ARMENISE	68	DBC	$5.1\pi^+n \rightarrow p\pi^+MM^-$
128	± 27		12 BOESEBECK	68	HBC	$8\pi^+p$
176	± 21		12,17 JOHNSON	68	HBC	$3.7-4.2\pi^-p$

OCCUR=2

• • • We do not use the following data for averages, fits, limits, etc. • • •

194	± 36		18 ANISOVICH	09	RVUE	$0.0\bar{p}p, \pi N$
195	± 15	870	19 SCHEGELSKY	06A	RVUE	$\gamma\gamma \rightarrow K_S^0 K_S^0$
121	± 26		TIKHOMIROV	03	SPEC	$40.0\pi^-C \rightarrow K_S^0 K_S^0 K_L^0 X$
187	± 20		20 ALDE	97	GAM2	$450pp \rightarrow pp\pi^0\pi^0$
184	± 10		20 GRYGOREV	96	SPEC	$40\pi^-N \rightarrow K_S^0 K_S^0 X$
200	± 10		AKER	91	CBAR	$0.0\bar{p}p \rightarrow 3\pi^0$
240	± 40	3k	BINON	83	GAM2	$38\pi^-p \rightarrow n2\eta$
187	± 30	650	12 ANTIPOV	77	CIBS	$25\pi^-p \rightarrow p3\pi$
225	± 38	16000	DEUTSCH...	76	HBC	$16\pi^+p$
166	± 28	600	12 TAKAHASHI	72	HBC	$8\pi^-p \rightarrow n2\pi$
173	± 53		12 ARMENISE	70	HBC	$9\pi^+n \rightarrow p\pi^+\pi^-$

OCCUR=2

11 T-matrix pole.

12 Width errors enlarged by us to $4\Gamma/\sqrt{N}$; see the note with the $K^*(892)$ mass.

13 From a partial-wave analysis of data using a K-matrix formalism with 5 poles.

14 From an energy-independent partial-wave analysis.

15 From an amplitude analysis of the reaction $\pi^+\pi^- \rightarrow 2\pi^0$.

16 From an amplitude analysis of $\pi^+\pi^- \rightarrow \pi^+\pi^-$ scattering data.

17 JOHNSON 68 includes BONDAR 63, LEE 64, DERADO 65, EISNER 67.

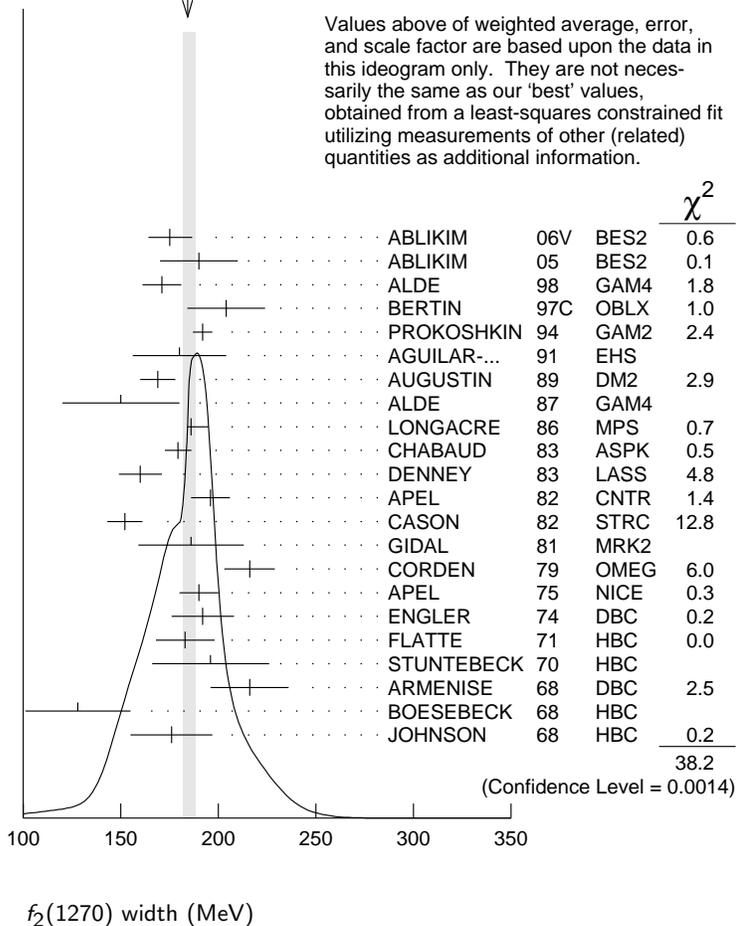
18 4-poles, 5-channel K matrix fit.

19 From analysis of L3 data at 91 and 183–209 GeV.

20 Systematic uncertainties not estimated.

NODE=M005W;LINKAGE=QA
 NODE=M005W;LINKAGE=T
 NODE=M005W;LINKAGE=L
 NODE=M005W;LINKAGE=R
 NODE=M005W;LINKAGE=Q
 NODE=M005W;LINKAGE=U
 NODE=M005W;LINKAGE=J
 NODE=M005W;LINKAGE=AN
 NODE=M005W;LINKAGE=SC
 NODE=M005W;LINKAGE=QQ

WEIGHTED AVERAGE
184.2±4.0-2.4 (Error scaled by 1.5)



$f_2(1270)$ DECAY MODES

NODE=M005215;NODE=M005

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	
Γ_1 $\pi\pi$	(84.8 $^{+2.4}_{-1.2}$) %	S=1.2	DESIG=1
Γ_2 $\pi^+\pi^-2\pi^0$	(7.1 $^{+1.4}_{-2.7}$) %	S=1.3	DESIG=3
Γ_3 $K\bar{K}$	(4.6 ± 0.4) %	S=2.8	DESIG=4
Γ_4 $2\pi^+2\pi^-$	(2.8 ± 0.4) %	S=1.2	DESIG=2
Γ_5 $\eta\eta$	(4.0 ± 0.8) $\times 10^{-3}$	S=2.1	DESIG=7
Γ_6 $4\pi^0$	(3.0 ± 1.0) $\times 10^{-3}$		DESIG=9
Γ_7 $\gamma\gamma$	(1.64 ± 0.19) $\times 10^{-5}$	S=1.9	DESIG=8
Γ_8 $\eta\pi\pi$	< 8 $\times 10^{-3}$	CL=95%	DESIG=6
Γ_9 $K^0K^-\pi^+ + c.c.$	< 3.4 $\times 10^{-3}$	CL=95%	DESIG=5
Γ_{10} e^+e^-	< 6 $\times 10^{-10}$	CL=90%	DESIG=10

CONSTRAINED FIT INFORMATION

An overall fit to the total width, 4 partial widths, a combination of partial widths obtained from integrated cross sections, and 6 branching ratios uses 44 measurements and one constraint to determine 8 parameters. The overall fit has a $\chi^2 = 81.8$ for 37 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle \delta p_i \delta p_j \rangle / (\delta p_i \cdot \delta p_j)$, in percent, from the fit to parameters p_i , including the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_2	-91						
x_3	11	-39					
x_4	10	-37	1				
x_5	1	-6	0	0			
x_6	0	-7	0	0	0		
x_7	8	-5	-6	1	0	0	
Γ	-78	71	-11	-8	-1	0	-11
	x_1	x_2	x_3	x_4	x_5	x_6	x_7

Mode	Rate (MeV)	Scale factor
Γ_1 $\pi\pi$	156.9 $\begin{smallmatrix} +4.0 \\ -1.2 \end{smallmatrix}$	DESIG=1
Γ_2 $\pi^+\pi^-2\pi^0$	13.2 $\begin{smallmatrix} +2.8 \\ -5.0 \end{smallmatrix}$	1.3 DESIG=3
Γ_3 $K\bar{K}$	8.5 ± 0.8	2.9 DESIG=4
Γ_4 $2\pi^+2\pi^-$	5.2 ± 0.7	1.2 DESIG=2
Γ_5 $\eta\eta$	0.74 ± 0.14	2.1 DESIG=7
Γ_6 $4\pi^0$	0.55 ± 0.18	DESIG=9
Γ_7 $\gamma\gamma$	0.00303 ± 0.00035	1.9 DESIG=8

$f_2(1270)$ PARTIAL WIDTHS

NODE=M005220

$\Gamma(\pi\pi)$

 Γ_1

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
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NODE=M005W1
NODE=M005W1

156.9 $\begin{smallmatrix} +4.0 \\ -1.2 \end{smallmatrix}$ OUR FIT

157.0 $\begin{smallmatrix} +6.0 \\ -1.0 \end{smallmatrix}$ ²¹ LONGACRE 86 MPS 22 $\pi^- p \rightarrow n 2K_S^0$

• • • We do not use the following data for averages, fits, limits, etc. • • •

152 ± 8 870 ²² SCHEGELSKY 06A RVUE $\gamma\gamma \rightarrow K_S^0 K_S^0$

$\Gamma(K\bar{K})$

 Γ_3

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
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NODE=M005W4
NODE=M005W4

8.5 ± 0.8 OUR FIT Error includes scale factor of 2.9.

9.0 $\begin{smallmatrix} +0.7 \\ -0.3 \end{smallmatrix}$ ²¹ LONGACRE 86 MPS 22 $\pi^- p \rightarrow n 2K_S^0$

• • • We do not use the following data for averages, fits, limits, etc. • • •

7.5 ± 2.0 870 ²² SCHEGELSKY 06A RVUE $\gamma\gamma \rightarrow K_S^0 K_S^0$

$\Gamma(\eta\eta)$

 Γ_5

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
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NODE=M005W7
NODE=M005W7

0.74 ± 0.14 OUR FIT Error includes scale factor of 2.1.

1.0 ± 0.1 ²¹ LONGACRE 86 MPS 22 $\pi^- p \rightarrow n 2K_S^0$

• • • We do not use the following data for averages, fits, limits, etc. • • •

1.8 ± 0.4 870 ²² SCHEGELSKY 06A RVUE $\gamma\gamma \rightarrow K_S^0 K_S^0$

$\Gamma(\gamma\gamma)$

 Γ_7

The value of this width depends on the theoretical model used. Unitary approaches with scalars typically (with exception of PENNINGTON 08) give values clustering around 2.6 keV; without an *S*-wave contribution, values are systematically higher (typically around 3 keV).

NODE=M005W8
NODE=M005W8

VALUE (keV)	EVTs	DOCUMENT ID	TECN	COMMENT
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NODE=M005W8

3.03 ± 0.35 OUR FIT Error includes scale factor of 1.9.

3.14 ± 0.20 ^{23,24} PENNINGTON 08 RVUE Compilation

OCCUR=2

Helicity-0/Helicity-2 RATIO IN $\gamma\gamma \rightarrow f_2(1270) \rightarrow \pi\pi$

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$3.7 \pm 0.3 \pm^{15.9}_{2.9}$	UEHARA	08A BELL	$10.6 e^+ e^- \rightarrow e^+ e^- \pi^0 \pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
13	38,39	PENNINGTON 08	RVUE Compilation
26	39,40	PENNINGTON 08	RVUE Compilation
³⁸ Solution A (preferred solution based on χ^2 -analysis).			
³⁹ Dispersion theory based amplitude analysis of BOYER 90, MARSISKE 90, BEHREND 92, and MORI 07.			
⁴⁰ Solution B (worse than solution A; still acceptable when systematic uncertainties are included).			

NODE=M005HR0
 NODE=M005HR0

OCCUR=2
 OCCUR=3

NODE=M005HR0;LINKAGE=P1
 NODE=M005HR0;LINKAGE=P3

NODE=M005HR0;LINKAGE=P2

 $f_2(1270)$ BRANCHING RATIOS

NODE=M005225

$\Gamma(\pi\pi)/\Gamma_{\text{total}}$	VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_1/Γ
$0.848 \pm^{0.024}_{-0.012}$ OUR FIT	Error includes scale factor of 1.2.					
0.837 ± 0.020 OUR AVERAGE						
0.849 ± 0.025			CHABAUD	83	ASPK	$17 \pi^- p$ polarized
0.85 ± 0.05	250		BEAUPRE	71	HBC	$8 \pi^+ p \rightarrow \Delta^{++} f_2$
0.8 ± 0.04	600		OH	70	HBC	$1.26 \pi^- p \rightarrow \pi^+ \pi^- n$

NODE=M005R10
 NODE=M005R10

$\Gamma(\pi^+ \pi^- 2\pi^0)/\Gamma(\pi\pi)$	VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_2/Γ_1
Should be twice $\Gamma(2\pi^+ 2\pi^-)/\Gamma(\pi\pi)$ if decay is $\rho\rho$. (See ASCOLI 68D.)						
$0.084 \pm^{0.018}_{-0.033}$ OUR FIT	Error includes scale factor of 1.3.					
0.15 ± 0.06	600		EISENBERG	74	HBC	$4.9 \pi^+ p \rightarrow \Delta^{++} f_2$
0.07			EMMS	75D	DBC	$4 \pi^+ n \rightarrow p f_2$

NODE=M005R2
 NODE=M005R2
 NODE=M005R2

$\Gamma(K\bar{K})/\Gamma(\pi\pi)$	VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_3/Γ_1
We average only experiments which either take into account $f_2(1270)$ - $a_2(1320)$ interference explicitly or demonstrate that $a_2(1320)$ production is negligible.						
$0.054 \pm^{0.005}_{-0.006}$ OUR FIT	Error includes scale factor of 2.8.					
$0.041 \pm^{0.004}_{-0.005}$ OUR AVERAGE						
0.045 ± 0.01	41		BARGIOTTI	03	OBLX	$\bar{p}p$
0.037 $\pm^{0.008}_{-0.021}$			ETKIN	82B	MPS	$23 \pi^- p \rightarrow n 2K_S^0$
0.045 ± 0.009			CHABAUD	81	ASPK	$17 \pi^- p$ polarized
0.039 ± 0.008			LOVERRE	80	HBC	$4 \pi^- p \rightarrow K\bar{K}N$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
0.052 ± 0.025			ABLIKIM	04E	BES2	$J/\psi \rightarrow \omega K^+ K^-$
0.036 ± 0.005	42		COSTA...	80	OMEG	$1-2.2 \pi^- p \rightarrow K^+ K^- n$
0.030 ± 0.005	43		MARTIN	79	RVUE	
0.027 ± 0.009	44		POLYCHRO...	79	STRC	$7 \pi^- p \rightarrow n 2K_S^0$
0.025 ± 0.015			EMMS	75D	DBC	$4 \pi^+ n \rightarrow p f_2$
0.031 ± 0.012	20		ADERHOLZ	69	HBC	$8 \pi^+ p \rightarrow K^+ K^- \pi^+ p$

NODE=M005R3
 NODE=M005R3
 NODE=M005R3

$\Gamma(2\pi^+ 2\pi^-)/\Gamma(\pi\pi)$	VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_4/Γ_1
0.033 ± 0.005 OUR FIT	Error includes scale factor of 1.2.					
0.033 ± 0.004 OUR AVERAGE	Error includes scale factor of 1.1.					
0.024 ± 0.006	160		EMMS	75D	DBC	$4 \pi^+ n \rightarrow p f_2$
0.051 ± 0.025	70		EISENBERG	74	HBC	$4.9 \pi^+ p \rightarrow \Delta^{++} f_2$
0.043 $\pm^{0.007}_{-0.011}$	285		LOUIE	74	HBC	$3.9 \pi^- p \rightarrow n f_2$
0.037 ± 0.007	154		ANDERSON	73	DBC	$6 \pi^+ n \rightarrow p f_2$
0.047 ± 0.013			OH	70	HBC	$1.26 \pi^- p \rightarrow \pi^+ \pi^- n$

NODE=M005R1
 NODE=M005R1

$\Gamma(\eta\eta)/\Gamma_{\text{total}}$					Γ_5/Γ		
VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT				
4.0±0.8 OUR FIT	Error includes scale factor of 2.1.						NODE=M005R7 NODE=M005R7
2.9±0.5 OUR AVERAGE							
2.7±0.7	BINON	05	GAMS	33 $\pi^- p \rightarrow \eta\eta n$			
2.8±0.7	ALDE	86D	GAM4	100 $\pi^- p \rightarrow 2\eta n$			
5.2±1.7	BINON	83	GAM2	38 $\pi^- p \rightarrow 2\eta n$			

$\Gamma(\eta\eta)/\Gamma(\pi\pi)$					Γ_5/Γ_1	
VALUE	CL%	DOCUMENT ID	TECN	COMMENT		
0.003±0.001		BARBERIS	00E	450 $p p \rightarrow p_f \eta \eta p_s$		NODE=M005R6 NODE=M005R6
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.05	95	EDWARDS	82F	CBAL	$e^+ e^- \rightarrow e^+ e^- 2\eta$	
<0.016	95	EMMS	75D	DBC	$4 \pi^+ n \rightarrow p f_2$	
<0.09	95	EISENBERG	74	HBC	$4.9 \pi^+ p \rightarrow \Delta^{++} f_2$	

$\Gamma(4\pi^0)/\Gamma_{\text{total}}$					Γ_6/Γ	
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT		
0.0030±0.0010 OUR FIT						NODE=M005R11 NODE=M005R11
0.003 ±0.001	400 ± 50	ALDE	87	GAM4	100 $\pi^- p \rightarrow 4\pi^0 n$	

$\Gamma(\gamma\gamma)/\Gamma_{\text{total}}$					Γ_7/Γ	
VALUE (units 10^{-5})		DOCUMENT ID	TECN	COMMENT		
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$1.57 \pm 0.01^{+1.39}_{-0.14}$		UEHARA	08A	BELL	10.6 $e^+ e^- \rightarrow e^+ e^- \pi^0 \pi^0$	NODE=M005R13 NODE=M005R13

$\Gamma(\eta\pi\pi)/\Gamma(\pi\pi)$					Γ_8/Γ_1	
VALUE	CL%	DOCUMENT ID	TECN	COMMENT		
<0.010	95	EMMS	75D	DBC	$4 \pi^+ n \rightarrow p f_2$	NODE=M005R5 NODE=M005R5

$\Gamma(K^0 K^- \pi^+ + \text{c.c.})/\Gamma(\pi\pi)$					Γ_9/Γ_1	
VALUE	CL%	DOCUMENT ID	TECN	COMMENT		
<0.004	95	EMMS	75D	DBC	$4 \pi^+ n \rightarrow p f_2$	NODE=M005R4 NODE=M005R4

$\Gamma(e^+ e^-)/\Gamma_{\text{total}}$					Γ_{10}/Γ	
VALUE (units 10^{-10})	CL%	DOCUMENT ID	TECN	COMMENT		
<6	90	ACHASOV	00K	SND	$e^+ e^- \rightarrow \pi^0 \pi^0$	NODE=M005R12 NODE=M005R12
⁴¹ Coupled channel analysis of $\pi^+ \pi^- \pi^0$, $K^+ K^- \pi^0$, and $K_S^0 \pi^\mp$. ⁴² Re-evaluated by CHABAUD 83. ⁴³ Includes PAWLICKI 77 data. ⁴⁴ Takes into account the $f_2(1270)$ - $f_2'(1525)$ interference.						
						NODE=M005R;LINKAGE=BG NODE=M005R3;LINKAGE=D NODE=M005R3;LINKAGE=F NODE=M005R3;LINKAGE=M

$f_2(1270)$ REFERENCES

						NODE=M005
UEHARA	10A	PR D82 114031	S. Uehara <i>et al.</i>	(BELLE Collab.)		REFID=53641
ANISOVICH	09	IJMP A24 2481	V.V. Anisovich, A.V. Sarantsev			REFID=52719
PDG	08	PL B667 1	C. Amsler <i>et al.</i>	(PDG Collab.)		REFID=52166
PENNINGTON	08	EPJ C56 1	M.R. Pennington <i>et al.</i>			REFID=52303
UEHARA	08A	PR D78 052004	S. Uehara <i>et al.</i>	(BELLE Collab.)		REFID=52309
MORI	07	PR D75 051101	T. Mori <i>et al.</i>	(BELLE Collab.)		REFID=51652
ABLIKIM	06V	PL B642 441	M. Ablikim <i>et al.</i>	(BES Collab.)		REFID=51507
SCHEGELSKY	06A	EPJ A27 207	V.A. Schegelsky <i>et al.</i>			REFID=51185
ABLIKIM	05	PL B607 243	M. Ablikim <i>et al.</i>	(BES Collab.)		REFID=50450
BINON	05	PAN 68 960	F. Binon <i>et al.</i>			REFID=50780
Translated from YAF 68 998.						
ABLIKIM	04E	PL B603 138	M. Ablikim <i>et al.</i>	(BES Collab.)		REFID=50174
BARGIOTTI	03	EPJ C26 371	M. Bargiotti <i>et al.</i>	(OBELIX Collab.)		REFID=49217
TIKHOMIROV	03	PAN 66 828	G.D. Tikhomirov <i>et al.</i>			REFID=49423
Translated from YAF 66 860.						
ACHASOV	00K	PL B492 8	M.N. Achasov <i>et al.</i>	(Novosibirsk SND Collab.)		REFID=47933
BARBERIS	00E	PL B479 59	D. Barberis <i>et al.</i>	(WA 102 Collab.)		REFID=47961
BOGLIONE	99	EPJ C9 11	M. Boglione, M.R. Pennington			REFID=46931
ALDE	98	EPJ A3 361	D. Alde <i>et al.</i>	(GAM4 Collab.)		REFID=46605
Also		PAN 62 405	D. Alde <i>et al.</i>	(GAMS Collab.)		REFID=46914
Translated from YAF 62 446.						
ALDE	97	PL B397 350	D.M. Alde <i>et al.</i>	(GAMS Collab.)		REFID=45392
BERTIN	97C	PL B408 476	A. Bertin <i>et al.</i>	(OBELIX Collab.)		REFID=45701
GRYGOREV	96	PAN 59 2105	V.K. Grigoriev, O.N. Baloshin, B.P. Barkov	(ITEP)		REFID=45566
Translated from YAF 59 2187.						
YABUKI	95	JPSJ 64 435	F. Yabuki <i>et al.</i>	(VENUS Collab.)		REFID=46384
PROKOSHKIN	94	SPD 39 420	Y.D. Prokoshkin, A.A. Kondashov	(SERP)		REFID=44094
Translated from DANS 336 613.						

BEHREND	92	ZPHY C56 381	H.J. Behrend	(CELLO Collab.)	REFID=43172
BLINOV	92	ZPHY C53 33	A.E. Blinov <i>et al.</i>	(NOVO)	REFID=41858
AGUILAR-...	91	ZPHY C50 405	M. Aguilar-Benitez <i>et al.</i>	(LEBC-EHS Collab.)	REFID=41637
AKER	91	PL B260 249	E. Aker <i>et al.</i>	(Crystal Barrel Collab.)	REFID=41587
ADACHI	90D	PL B234 185	I. Adachi <i>et al.</i>	(TOPAZ Collab.)	REFID=41345
ALBRECHT	90G	ZPHY C48 183	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=41374
BOYER	90	PR D42 1350	J. Boyer <i>et al.</i>	(Mark II Collab.)	REFID=41362
BREAKSTONE	90	ZPHY C48 569	A.M. Breakstone <i>et al.</i>	(ISU, BGNA, CERN+)	REFID=41376
MARSISKE	90	PR D41 3324	H. Marsiske <i>et al.</i>	(Crystal Ball Collab.)	REFID=41351
MORGAN	90	ZPHY C48 623	D. Morgan, M.R. Pennington	(RAL, DURH)	REFID=41583
OEST	90	ZPHY C47 343	T. Oest <i>et al.</i>	(JADE Collab.)	REFID=41358
AUGUSTIN	89	NP B320 1	J.E. Augustin, G. Cosme	(DM2 Collab.)	REFID=41004
VOROBYEV	88	SJNP 48 273	P.V. Vorobiev <i>et al.</i>	(NOVO)	REFID=41023
Translated from YAF 48 436.					
ALDE	87	PL B198 286	D.M. Alde <i>et al.</i>	(LANL, BRUX, SERP, LAPP)	REFID=40221
AUGUSTIN	87	ZPHY C36 369	J.E. Augustin <i>et al.</i>	(LALO, CLER, FRAS+)	REFID=40268
ABACHI	86B	PRL 57 1990	S. Abachi <i>et al.</i>	(PURD, ANL, IND, MICH+)	REFID=20394
AIHARA	86B	PRL 57 404	H. Aihara <i>et al.</i>	(TPC-2 γ Collab.)	REFID=20764
ALDE	86D	NP B269 485	D.M. Alde <i>et al.</i>	(BELG, LAPP, SERP, CERN+)	REFID=20765
LANDRO	86	PL B172 445	M. Landro, K.J. Mork, H.A. Olsen	(UTRO)	REFID=20767
LONGACRE	86	PL B177 223	R.S. Longacre <i>et al.</i>	(BNL, BRAN, CUNY+)	REFID=20768
LYTH	85	JPG 11 459	D.H. Lyth		REFID=42169
BEHREND	84B	ZPHY C23 223	H.J. Behrend <i>et al.</i>	(CELLO Collab.)	REFID=20757
BERGER	84	ZPHY C26 199	C. Berger <i>et al.</i>	(PLUTO Collab.)	REFID=20760
COURAU	84	PL 147B 227	A. Courau <i>et al.</i>	(CIT, SLAC)	REFID=20758
SMITH	84C	PR D30 851	J.R. Smith <i>et al.</i>	(SLAC, LBL, HARV)	REFID=20759
BINON	83	NC 78A 313	F.G. Binon <i>et al.</i>	(BELG, LAPP, SERP+)	REFID=20750
Also		SJNP 38 561	F.G. Binon <i>et al.</i>	(BELG, LAPP, SERP+)	REFID=20751
Translated from YAF 38 934.					
CHABAUD	83	NP B223 1	V. Chabaud <i>et al.</i>	(CERN, CRAC, MPIM)	REFID=20131
DENNEY	83	PR D28 2726	D.L. Denney <i>et al.</i>	(IOWA, MICH)	REFID=20754
MENNESSIER	83	ZPHY C16 241	G. Mennessier	(MONP)	REFID=20393
APEL	82	NP B201 197	W.D. Apel <i>et al.</i>	(KARLK, KARLE, PISA, SERP+)	REFID=20745
CASON	82	PRL 48 1316	N.M. Cason <i>et al.</i>	(NDAM, ANL)	REFID=20746
EDWARDS	82F	PL 110B 82	C. Edwards <i>et al.</i>	(CIT, HARV, PRIN+)	REFID=20747
ETKIN	82B	PR D25 1786	A. Etkin <i>et al.</i>	(BNL, CUNY, TUFTS, VAND)	REFID=20390
BRANDELIK	81B	ZPHY C10 117	R. Brandelik <i>et al.</i>	(TASSO Collab.)	REFID=20741
CHABAUD	81	APP B12 575	V. Chabaud <i>et al.</i>	(CERN, CRAC, MPIM)	REFID=20742
GIDAL	81	PL 107B 153	G. Gidal <i>et al.</i>	(SLAC, LBL)	REFID=20386
ROUSSARIE	81	PL 105B 304	A. Roussarie <i>et al.</i>	(SLAC, LBL)	REFID=20388
BERGER	80B	PL 94B 254	C. Berger <i>et al.</i>	(PLUTO Collab.)	REFID=20736
COSTA...	80	NP B175 402	G. Costa de Beauregard <i>et al.</i>	(BARI, BONN+)	REFID=20737
LOVERRE	80	ZPHY C6 187	P.F. Loverre <i>et al.</i>	(CERN, CDEF, MADR+)	REFID=20382
CORDEN	79	NP B157 250	M.J. Corden <i>et al.</i>	(BIRM, RHEL, TELA+)	REFID=20374
MARTIN	79	NP B158 520	A.D. Martin, E.N. Ozmutlu	(DURH)	REFID=20377
POLYCHRO...	79	PR D19 1317	V.A. Polychronakos <i>et al.</i>	(NDAM, ANL)	REFID=20378
PDG	78	PL 75B 1	C. Bricman <i>et al.</i>		REFID=40124
ANTIPOV	77	NP B119 45	Y.M. Antipov <i>et al.</i>	(SERP, GEVA)	REFID=20728
PAWLICKI	77	PR D15 3196	A.J. Pawlicki <i>et al.</i>	(ANL)	REFID=20367
DEUTSCH...	76	NP B103 426	M. Deuschmann <i>et al.</i>	(AACH3, BERL, BONN+)	REFID=20119
APEL	75	PL 57B 398	W.D. Apel <i>et al.</i>	(KARLK, KARLE, PISA, SERP+)	REFID=20720
EMMS	75D	NP B96 155	M.J. Emms <i>et al.</i>	(BIRM, DURH, RHEL)	REFID=20721
EISENBERG	74	PL 52B 239	Y. Eisenberg <i>et al.</i>	(REHO)	REFID=20715
ENGLER	74	PR D10 2070	A. Engler <i>et al.</i>	(CMU, CASE)	REFID=20110
LOUIE	74	PL 48B 385	J. Louie <i>et al.</i>	(SACL, CERN)	REFID=20719
ANDERSON	73	PRL 31 562	J.C. Anderson <i>et al.</i>	(CMU, CASE)	REFID=20710
TAKAHASHI	72	PR D6 1266	K. Takahashi <i>et al.</i>	(TOHOK, PENN, NDAM+)	REFID=20103
BEAUPRE	71	NP B28 77	J.V. Beaupre <i>et al.</i>	(AACH, BERL, CERN)	REFID=20698
FLATTE	71	PL 34B 551	S.M. Flatte <i>et al.</i>	(LBL)	REFID=20700
ARMENISE	70	LCN 4 199	N. Armenise <i>et al.</i>	(BARI, BGNA, FIRZ)	REFID=20693
OH	70	PR D1 2494	B.Y. Oh <i>et al.</i>	(WISC, TNT0) JP	REFID=20335
STUNTEBECK	70	PL 32B 391	P.H. Stuntebeck <i>et al.</i>	(NDAM)	REFID=20696
ADERHOLZ	69	NP B11 259	M. Aderholz <i>et al.</i>	(AACH3, BERL, CERN+)	REFID=20687
ARMENISE	68	NC 54A 999	N. Armenise <i>et al.</i>	(BARI, BGNA, FIRZ+)	REFID=20054
ASCOLI	68D	PRL 21 1712	G. Ascoli <i>et al.</i>	(ILL)	REFID=20681
BOESEBECK	68	NP B4 501	K. Boesebeck <i>et al.</i>	(AACH, BERL, CERN)	REFID=20585
JOHNSON	68	PR 176 1651	P.B. Johnson <i>et al.</i>	(NDAM, PURD, SLAC)	REFID=20065
EISNER	67	PR 164 1699	R.L. Eisner <i>et al.</i>	(PURD)	REFID=20046
DERADO	65	PRL 14 872	I. Derado <i>et al.</i>	(NDAM)	REFID=20668
LEE	64	PRL 12 342	Y.Y. Lee <i>et al.</i>	(MICH)	REFID=20663
BONDAR	63	PL 5 153	L. Bondar <i>et al.</i>	(AACH, BIRM, BONN, DESY+)	REFID=20657